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Report On Business®

Economy Increases In April; PMI Highest in a Year, 50.2%

APRIL REPORT

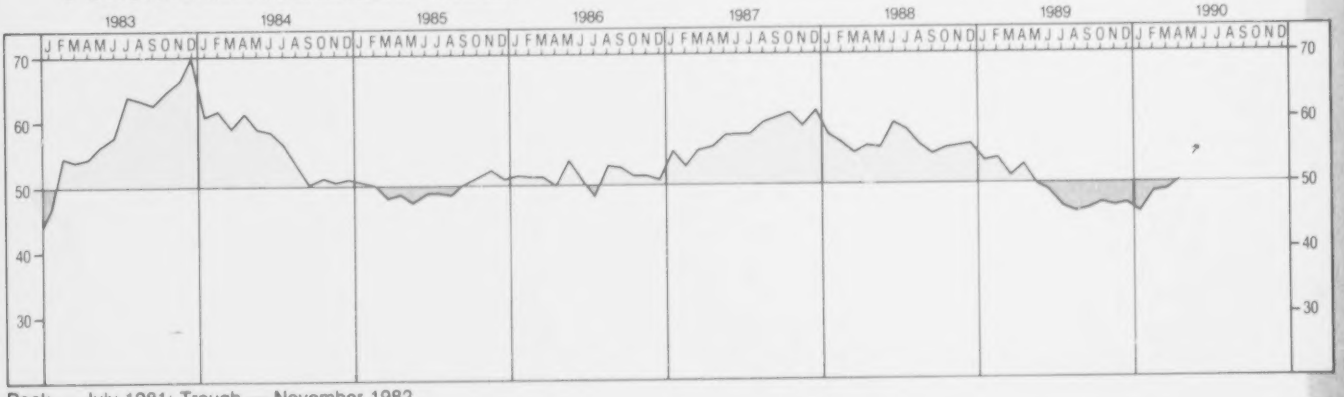
Analysis by the National Association of Purchasing Management Business Survey Committee; chair, Robert J. Bretz, C.P.M., director of materials management, Pitney Bowes, Inc.

The manufacturing economy increased slightly in April after declining for 11 consecutive months, say the nation's purchasing executives in their latest **Report on Business.** The Production Index increased for the third consecutive month although at a somewhat lower rate than in March. New Orders also increased for the third consecutive month and at the highest rate since February 1989. The New Export Orders Index also increased matching its previous highest level in September 1989. The Imports Index registered 50.5%, the same as in the past three months. The expansion in the economy did not come as a result of inventory building since inventories decreased for the 17th consecutive month, at an identical rate as last month.

Employment declined for the 14th consecutive month at virtually the same rate as in March. Supplier Deliveries were faster in April for the 12th consecutive month, but at the slowest rate since June 1989. Twelve commodities qualified for the In Short Supply list, twice the number of items reported in March. To further confirm the increase in the economy, more purchasing executives reported their prices were higher than lower for the first time since May 1989.

The **Report** was issued by Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee, and director of materials management at Pitney Bowes, Inc. Said Bretz, "The manufacturing economy inched into expansion territory as it entered the second quarter. Clearly, the improvement came as the result of a significant increase in New Orders, particularly the continued strong performance in New Export Orders. The rebound should be sufficient to sustain solid production growth for several months and buoy the entire economy over the balance of the second quarter."

PURCHASING MANAGERS' INDEX



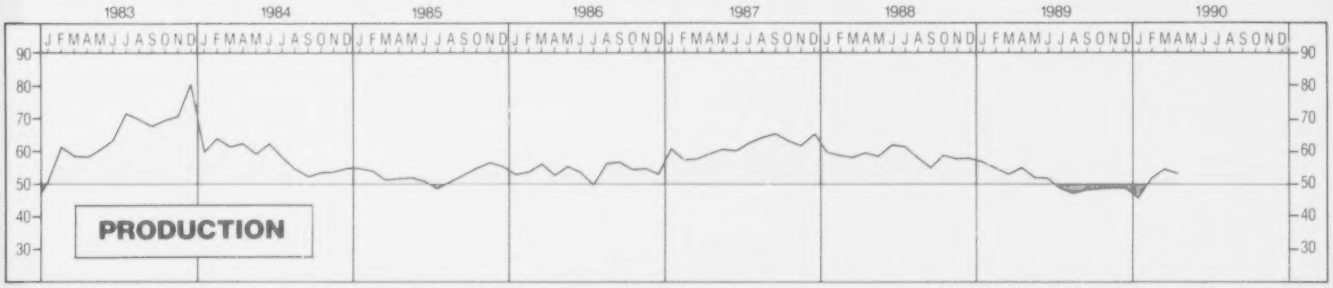
Peak — July 1981; Trough — November 1982.

PURCHASING MANAGERS' INDEX (PMI)

April '89	52.7	November '89	46.4
May '89	49.8	December '89	46.7
June '89	48.8	January '90	45.2
July '89	46.2	February '90	48.3
August '89	45.5	March '90	48.8
September '89	46.0	April '90	50.2
October '89	46.9		

The **Purchasing Managers' Index** (PMI) rose to 50.2% in April, up from 48.8% in March and the highest since April 1989 (52.7%). The 50.2% signaled an expansion in the manufacturing economy ending a string of 11 consecutive months of decline which slowed the entire economy. A reading below 50 indicates that the manufacturing economy is generally declining; above 50, that it is generally expanding. Bretz added, "The previous signs of leveling-off in the 11-month decline in the economy are even more credible now. The index has averaged 48.1% for the first four months of 1990. Past experience indicates that, if this average were to continue for the remainder of 1990, it would be consistent with real GNP growth of about 1.3%."

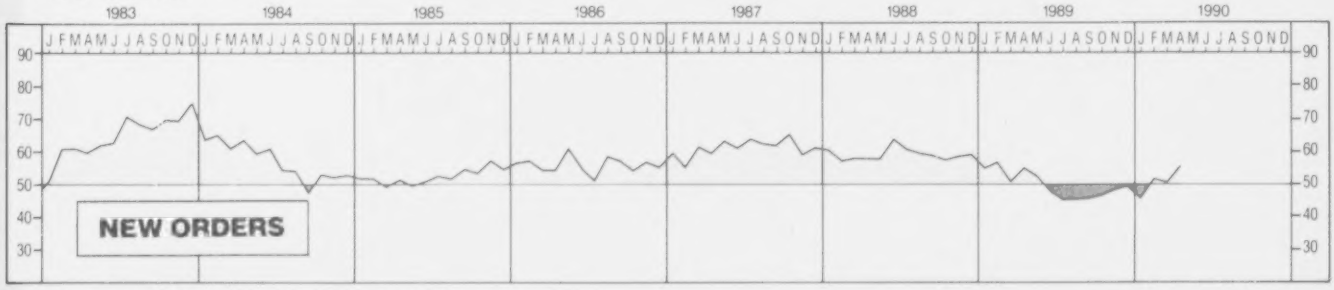
BUSINESS



Peak — July 1981; Trough — November 1982.

April marked the third consecutive month in which Production has expanded. The Production Index fell to 53.0% in April, down somewhat from March (54.4%). Except for March, 53.0% is the highest since last April (54.9%). Given the April surge in New Orders, it would be highly unlikely for Production to decline in the remaining two months of the second quarter.

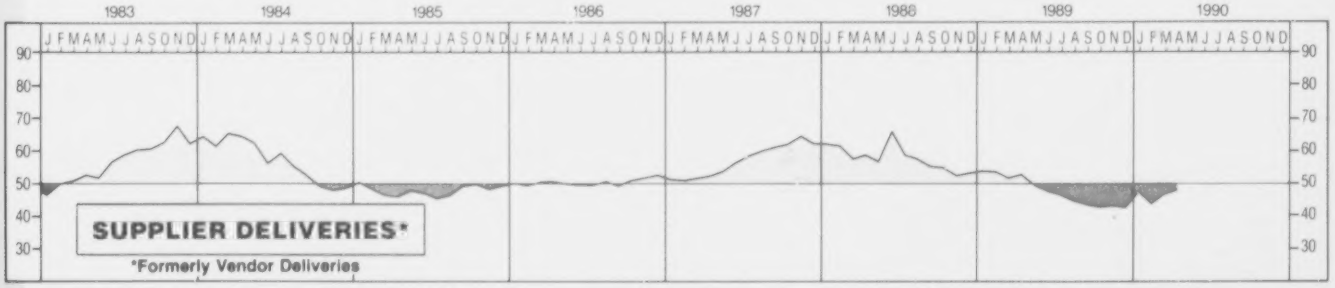
Production	%Better	%Same	%Worse	Net	Index
April 1990	30	54	16	+ 14	53.0
March 1990	28	55	17	+ 11	54.4
February 1990	27	53	20	+ 7	51.5
January 1990	18	56	26	- 8	45.4



Peak — July 1981; Trough — November 1982.

New Orders expanded significantly in April, the third consecutive monthly increase. The New Orders Index rose to 55.5%, from 50.4% in March, and is the highest since February 1989 (56.9%). Once again, strong growth in New Export Orders contributed greatly to the increase in this leading indicator of future growth.

New Orders	%Better	%Same	%Worse	Net	Index
April 1990	36	46	18	+ 18	55.5
March 1990	30	48	22	+ 8	50.4
February 1990	29	48	23	+ 6	51.8
January 1990	23	50	27	- 4	45.8



Peak — July 1981; Trough — November 1982.

Supplier Deliveries were faster in April for the 12th consecutive month, but at the slowest pace in that period, reflecting the increased manufacturing economy. The Supplier Deliveries Index rose to 47.6%, from 45.8% in March, and is the most since June 1989 (also 47.6%).

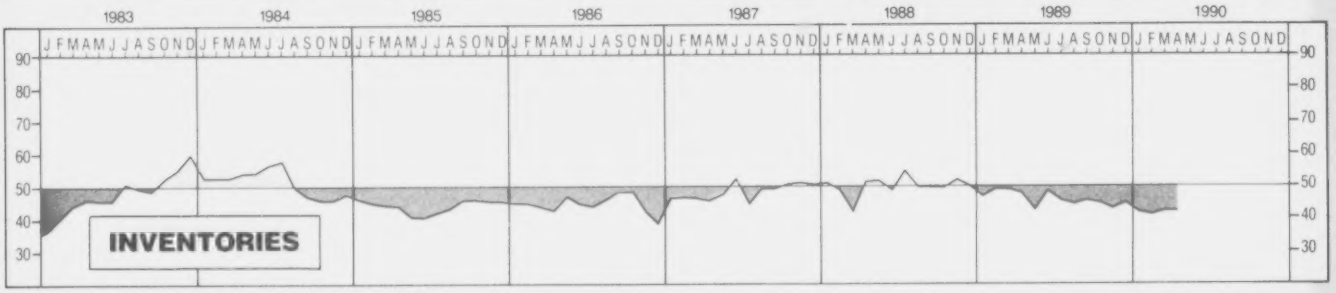
Supplier Deliveries	%Slower	%Same	%Faster	Net	Index
April 1990	7	80	13	- 6	47.6
March 1990	5	84	11	- 6	45.8
February 1990	3	80	17	-14	43.3
January 1990	7	82	11	- 4	47.2

IN SHORT SUPPLY

Bearings — 21st consecutive month, a consequence of anti-dumping suits; **Castings** — 15th time in 20 months; **Acetronitrile** — Used to remove tars, phenols, and coloring matter from certain petroleum hydrocarbons and to extract fatty acids from animal and vegetable oils; **Acrylic Acid** — 18th time in 22 months (used in manufacturing plastics); **Electric Motors** — 8th time in 13 months; **Caustic Soda/Soda Ash** — 35th consecutive month (used heavily in paper-making, petroleum refining, and soap-making); **Hydrogen Peroxide** — 5th consecutive month, increasing demand exceeding supply because of switching from chlorine use by paper makers to avoid dioxins (used as a bleaching agent and, in solution, as a topical cleansing agent and antiseptic); **Silicon Wafers** — Used in making semiconductors and integrated circuits; **Sodium Chlorate** — 11th consecutive month, increasing demand exceeding supply because of switching from chlorine use by paper makers to avoid dioxins (used heavily in paper-making and dyeing); **Tetrahydrafuran (THF)** — Heavily used solvent in high polymers, especially polyvinyl chlorate (PVC); **Titanium Dioxide** — 33rd consecutive month, increasing demand exceeding supply because of switching from chlorine use by paper makers to avoid dioxins (a lead-free pigment used as a whitener in coatings, paints, paper and other industrial applications); **Timber** — Essentially only in the Northwestern U.S., where conservationists' efforts have been successful in reducing the Douglas Fir acreage the government will allow to be cut, causing shortages in lumber, chips for paper mills and threatened reduction of log exports to the Pacific Rim.

UP IN PRICE

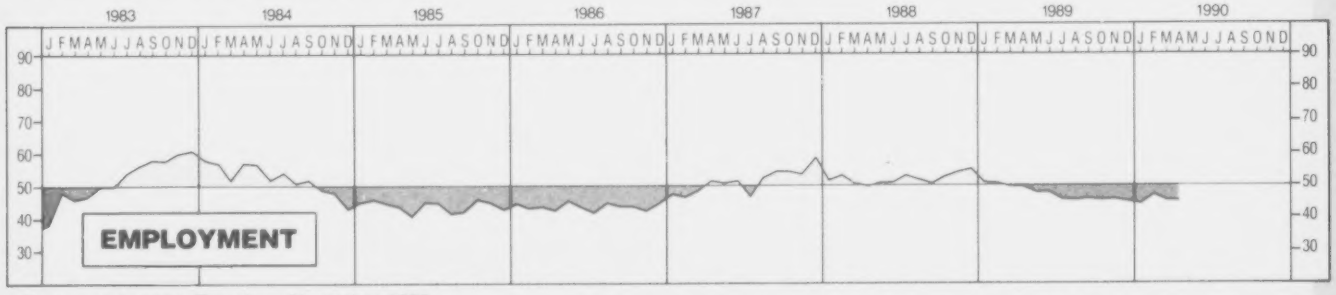
Aluminum — Stiff resistance, equal reports of price decreases; **Copper** — After being reported down in price in February for the 4th consecutive month; **Lead** — Used heavily in making paints, petroleum, pipe, and batteries; **Nickel** — 2nd consecutive month, after being reported down in price in February for the 9th consecutive month (used heavily in making stainless steel, plating metals, and batteries); **Zinc** — 2nd consecutive month, after being reported down in price in February for the 9th time in 10 months, some reports of price decreases (used heavily in metal alloys and as a protective coating for metal); **Castings; Electric Motors** — 7th time in 10 months; **Acetone** — A solvent for fats, oils, waxes, resins, rubber, plastics, lacquer and varnishes; **Caustic Soda/Soda Ash** — 41st consecutive month, primarily as a conse-



Peak — July 1981; Trough — November 1982.

The manufacturing economy did not need to resort to building inventories to achieve growth in April as Inventories declined again for the 17th consecutive month. The Inventories Index remained at 41.6% in April as in March, which was the second lowest since December 1986 (38.4%) with the exception of February 1990 (40.8%).

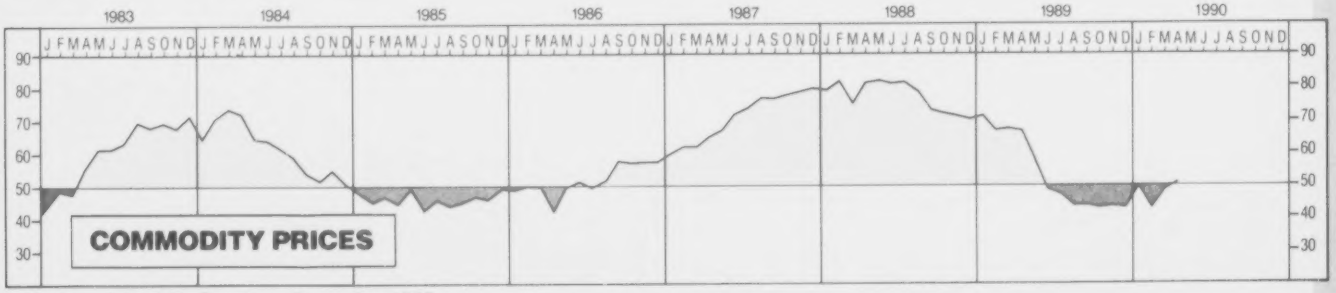
Inventories	%Higher	%Same	%Lower	Net	Index
April 1990	16	53	31	−15	41.6
March 1990	15	56	29	−14	41.6
February 1990	18	50	32	−14	40.8
January 1990	14	56	30	−16	41.8



Peak — July 1981; Trough — November 1982.

Employment declined in April for the 14th consecutive month. The Employment Index was virtually unchanged, falling fractionally to 45.1% from 45.2% in March. Some members continued to reported hiring temporary workers and working overtime to handle the increasing production activity, rather than hiring new employees.

Employment	%Higher	%Same	%Lower	Net	Index
April 1990	14	68	18	− 4	45.1
March 1990	12	70	18	− 6	45.2
February 1990	11	69	20	− 9	46.7
January 1990	8	71	21	−13	44.1



Peak — July 1981; Trough — November 1982.

The increase in the economy was sufficient to cause more purchasing managers to report price increases than decreases. This was the first time this occurred in almost a year. The Price Index rose to 50.8%, up a full two points from March (48.2%) and the most since May 1989 (57.5%). A total of 17 commodities are on the list of items up in price, up from 11 last month.

Prices	%Higher	%Same	%Lower	Net	Index
April 1990	19	68	13	+ 6	50.8
March 1990	13	72	15	− 2	48.2
February 1990	13	59	28	−15	42.2
January 1990	24	56	20	+ 4	49.7

quence of lower demand for co-produced chlorine by paper-makers (used heavily in paper-making, petroleum refining and soap making); **Ethylene** — After being reported down in price in December 1989 for the 8th consecutive month (used heavily in making ethylene oxide, plastic resins, and glycols); **Isopropyl Alcohol** — Used in anti-freeze compositions; as a solvent for gums, shellac, essentials; in quick-drying oils and inks, in lotions and cosmetics and in making acetone, glycerol, resins, and gums; **Methanol** — 4th consecutive month, aided by a Brazilian court ruling allowing substitution of 33% methanol into Brazil's most widely used motor fuel (used heavily as a solvent, a motor fuel additive, and in synthesizing other chemicals); **Freon** — 5th time in 6 months, a consequence of environmental-based production curtailment causing shortages until substitutes go into production in late 1991 (used as a refrigerant in air conditioners and refrigerators); **Polypropylene** — Used heavily in making fabrics, yarns, and carpets; **Polyvinyl Chloride (PVC)** — Used in wire and cable coating, vinyl siding, pipe, tubing, textile finishes, belting, and auto interior; **Corn Sweeteners** — 3rd consecutive month, (used in food processing); **Sugar** — Used in food processing.

DOWN IN PRICE

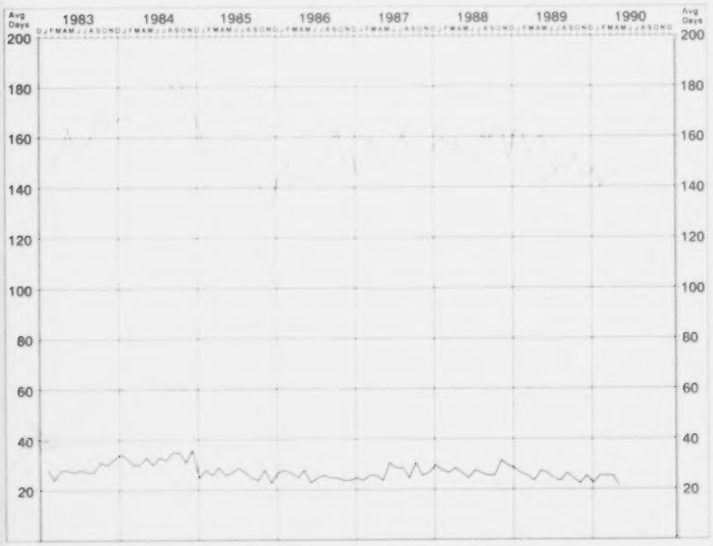
Aluminum — 13th consecutive month but equal reports of price increases; **Aluminum Cans** — Used in packaging beverages; **Steel** — 8th consecutive month; **Stainless Steel** — 5th consecutive month (some reports of price increases); **Linerboard** — 2nd consecutive month, used heavily in making corrugated shipping cartons; **Corrugated Shipping Containers** — 3rd consecutive month; **Benzine** — 3rd consecutive month, after being reported up in price for 3rd consecutive month in December 1989 (used heavily in making medicinal chemicals, dyes, varnishes, lacquers, and resins); **Ethylene Glycol** — 3rd consecutive month (used heavily in making antifreeze, brake fluid, plastic paint, and ink); **Glycerine** — Used in various ways, especially as a sweetener in confectioneries, cosmetics, soaps, and tobacco; **Phenol** — 8th time in 11 months (used heavily in making phenolic resins); **Plastic Resins** — 4th consecutive month (used in making plastic products); **Fuel Oil** — 3rd consecutive month, after being reported up in price in January 1990 for 4 consecutive months; **Natural Gas** — 3rd consecutive month after being reported up in price in January 1990 for 4 consecutive months; **Propane Gas.**

BUYING POLICY

April initiated a new enhanced method of reporting lead times for commitments to purchase. Using a value of 5 days for Hand-to-Mouth; 30, 60, 90, 180 and 360 days for a year or more; a weighted number average days has been calculated for each of the three categories of purchases. This single measure number will be reported for each month as well as previous months and should make it easier to understand each months status and to relate the current trend within the business cycle and between the categories of purchases. The average lead time for Production Materials in April fell to 44 days, down from 49 days in March and 52 days in January and the lowest since these statistics were first captured. It appears obvious that the trend toward Just-in-Time inventory programs has changed the commitment practices of purchasing executives.

The average lead time for Capital Expenditures in April was 145 days, down slightly from March (147 days).

The average lead time for Maintenance, Repair and Operating (MRO) Supplies in April was 22 days, down from 26 days, the average for the previous three months.

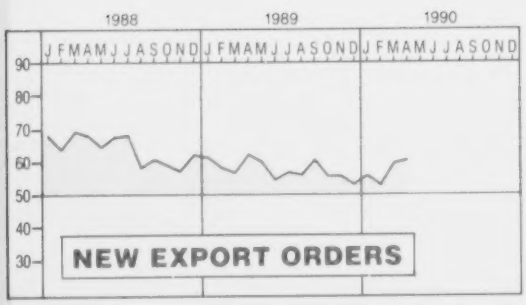


PERCENT REPORTING

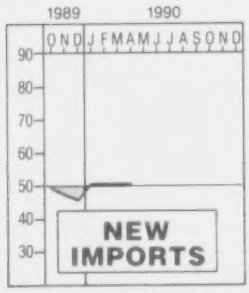
Capital Expenditures	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer	1 Year + Days	Avg. Days
April	12	6	13	18	36	15	145
March	11	5	14	18	37	15	147
February	10	8	16	15	36	15	145
January	11	8	13	17	38	13	141

Production Materials	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer	1 Year + Days	Avg. Days
April	16	43	28	11	2	0	44
March	19	37	29	10	4	1	49
February	17	40	28	12	2	1	48
January	17	41	25	11	4	2	52

MRO Supplies	Hand to Mouth	30 Days	60 Days	90 Days	6 Mos. and Longer	1 Year + Days	Avg. Days
April	47	43	8	2	0	0	22
March	39	49	9	2	1	0	26
February	42	47	8	1	2	0	26
January	41	45	11	2	1	0	26



New Export Orders increased in April for the 28th consecutive month. Although not seasonally adjusted, the New Export Orders Index continued to show increased strength, rising to 60.5% in April from 59.5% in March, and is the highest since September 1989 (also 60.5%). The number of members exporting also increased in April to 74%.



Imports barely increased in April, repeating a story told every month so far in 1990. The Imports Index once again registered 50.5%. This apparent stabilization in growth of imports coupled with the increasing growth in exports bodes well for a continued decline in the U.S. trade deficit.

New Export Orders	%Exporting	%Better	%Same	%Worse	Net	Index
April 1990	74	28	65	7	+21	60.5
March 1990	71	25	69	6	+19	59.5
February 1990	71	14	78	8	+ 6	53.0
January 1990	73	17	77	6	+11	55.5

Imports	%Importing	%Higher	%Same	%Lower	Net	Index
April 1990	76	12	77	11	+1	50.5
March 1990	78	12	77	11	+1	50.5
February 1990	77	12	77	11	+1	50.5
January 1990	82	12	77	11	+1	50.5

DATA AND METHOD OF PRESENTATION

The **Report on Business** is based on data compiled from monthly replies to questions asked of purchasing executives in over 300 industrial companies. Membership of the Business Survey Committee is diversified geographically, based on value added by state, and by Standard Industrial Classification (SIC) category, based on each industry's contribution to Gross National Product (GNP). Twenty industries in 50 states are represented on the committee.

Survey responses reflect the change, if any, in the current month compared to the previous month. For each of the indicators measured [New Orders, New Export Orders, Imports, Production, Supplier Deliveries (formerly Vendor Deliveries), Inventories, Employment and Prices], this report shows the percentage reporting each response, the net difference between the number of responses in the positive economic direction (higher, better and slower for Supplier Deliveries), and the negative economic direction (lower, worse and faster for Supplier Deliveries), and the diffusion index.

Responses are raw data and are never changed. The diffusion index includes the percent of positive responses plus one-half of those responding the same (considered positive). The resulting single index number is then seasonally adjusted to allow for the effects of repetitive intra-year variations resulting primarily from normal differences in weather conditions, various institutional arrangements and differences attributable to non-moveable holidays. All seasonal adjustment factors are supplied by the U.S. Department of Commerce and are subject annually to relatively minor changes when conditions warrant them. A sufficient history is not yet available for the New Export Orders and Imports Indexes to determine seasonal adjustment factors. Therefore, these two indexes are not seasonally adjusted. The Purchasing Managers' Index (PMI) is a composite index based on the seasonally adjusted diffusion indexes for five of the indicators (New Orders, Production, Supplier Deliveries, Inventories and Employment) with varying weights applied.

Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change and the scope of change. An index reading above 50% indicates that the economy is generally expanding; below 50%, that the economy is generally declining. The distance from 50% is indicative of the strength of the expansion or decline.

Responses to Buying Policy reflect the percent reporting the current months lead time, the approximate weighted number of days ahead for which commitments are made for Production Materials, Capital Expenditures and Maintenance, Repair and Operating (MRO) Supplies, expressed as hand-to-mouth (5 days), 30 days, 60 days, 90 days, 6 months (180 days), a year or more (360 days) and the weighted average number of days. These responses are raw data, never revised and not seasonally adjusted since there is no significant seasonal pattern.